

FERTILIZER DEEP PLACEMENT (FDP) TECHNOLOGY

(IFDC's Interventions Under APART Project in Assam)

What is Fertilizer Deep Placement (FDP) technology?

Fertilizer deep placement is a technology designed to enhance the efficiency of nutrient delivery to crops by placing granulated fertilizer directly in the root zone. It applies fertilizers into the soil close to the seed or plant to supply the nutrients in adequate amounts to the roots of growing plants.

How are briquettes made?

The recommended fertilizers, i.e., Nitrogen (N), Phosphorous (P), Potassium (K), Zinc Sulphate, etc, of relevant crops are put in the machine and compressed into briquettes of 1-3 g of weight.



Briquette Making Machine



Urea Briquette



NPK Briquette

Application of Briquettes

The briquettes are placed 7-9 cm (or 3-4 inch) deep in the soil around the plant, either manually or mechanically.



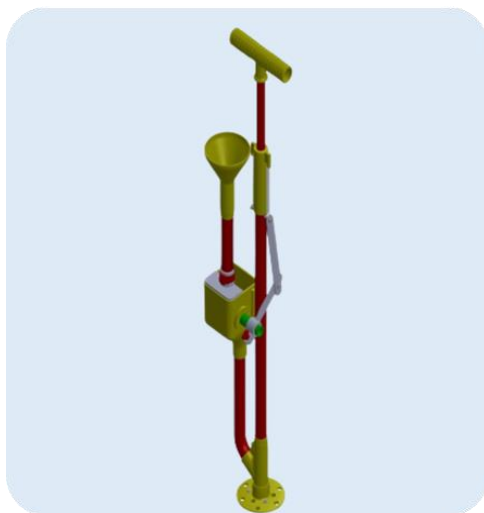
Manual Placement of Briquette



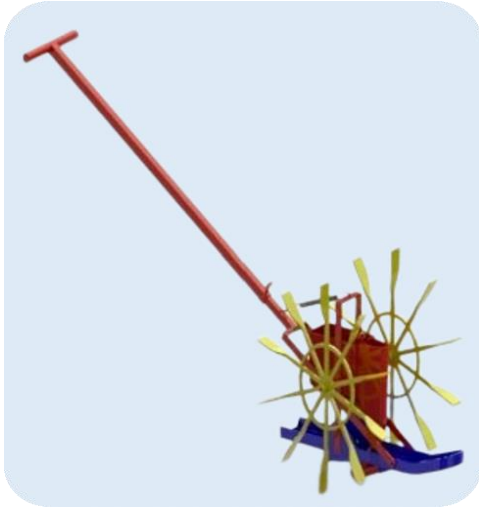
Mechanical Placement of Briquette

Briquette Applicators & Machines

There are different applicators for briquettes to be placed in the soil.



Injector-Type Self-Loaded Applicator



Self-Propelled Applicator – Single Row



Self-Propelled Applicator – Double Row

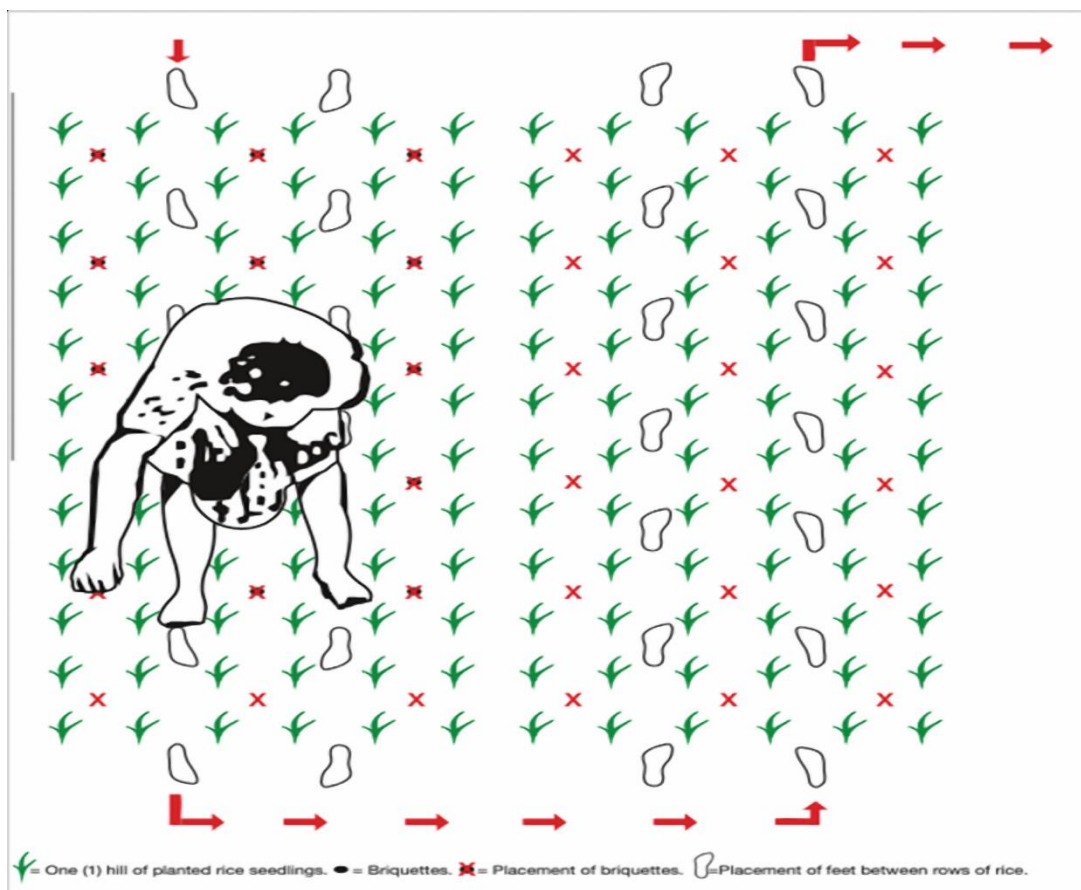


FDP-Multi-Planter (Direct Seed-cum-Fertilizer Machine)

Placement of NPK Briquettes in the Field

✚ For Line-transplanted Paddy

- Place NPK briquettes of size 2.7 gm each at 7-10 cm (3-4 inch) deep at the root zone by handheld applicator OR self-propelled applicator OR transplanter-mounted FDP applicator, etc.
- Transplant seedlings in lines, keeping 20cm (R) X 15cm (P) spacing.
- Place fertilizer briquettes within 5–7 days after transplanting.
- To make the placement easier, choose a time when there is only one inch (2-3 cm) of water in the field.
- Keep enough briquettes in the container to fill one entire row.
- Start at the right-hand side of the field. Push the briquettes into the soil at the center of every other four hills in lines one and two. Cover the briquettes with clay if the soil is not soft enough to cover placed briquettes.
- At the end of the row, get more briquettes, turn around, and place them between every other four hills between rows 3 and 4.
- At the end of the row, turn around and do the same between rows 5 and 6.
- Repeat until all rows are covered.



For Non-Line-transplanted Paddy

- Maintain 16-inch distance from one placement point to the other on both sides - fore and aft.
- The other procedures are as same as they are in line-transplanted paddy.

Advantages of Briquette Application

- 10-30% less urea is required per hectare of different crops.
- Application is only once in the season (for paddy).
- Because of reduced use of fertilizer, the Government saves subsidy expenditure on fertilizer.
- 10-20% yield increase among different crops and therefore increases food security.
- Less weed infestation.
- Reduces the adverse impact on environment (Less runoff, leaching, and gaseous loss).
- Profitable business opportunities for entrepreneurs and contributes to local economic development.

For Best Results

- Use only in clay-loam or loam soil.
- Use all other required fertilizers.
- Use HYV.
- Control pests and diseases.
- Ensure adequate water.
- Transplant in line.
